

**APPARATUS FOR PREPARING POLYOLEFIN PRODUCTS AND METHODOLOGY  
FOR USING THE SAME**

**ABSTRACT OF THE DISCLOSURE**

Apparatus for olefin polymerization includes a plurality of shell and tube olefin polymerization reactors, each of which has an olefin polymerization reaction mixture inlet connection and a crude polyolefin product outlet connection. Each reactor is equipped with a recirculation system including a pump arranged to circulate a reaction mixture through the tube side of the reactor independently of the introduction of olefin polymerization reaction mixture into the reactor. The apparatus also includes an inlet reaction mixture distribution manifold and an outlet polymerization reaction mixture collection manifold interconnecting the reactors for operation in parallel. The apparatus also includes catalyst composition and catalyst modifier inlets for each reactor arranged such that a catalyst modifier may be introduced into each reactor at a rate which is independent of the introduction of catalyst composition. The apparatus further incorporates a crude polyolefin product catalyst removal and wash system including a plurality of settler vessels, associated piping and an inlet for a catalyst killing agent. This crude polyolefin product catalyst removal and wash system operates to receive crude polyolefin product from the crude polyolefin product outlet and remove residual catalyst therefrom.